

**Revisions to Chapter NR 102, Wisconsin
Administrative Code:**

**Proposal to list additional waters as
Outstanding or Exceptional Resource Waters**

Public Hearings

Rhinelanders	January 4, 2006
Madison	January 5, 2006
Ashland	January 11, 2006
Spooner	January 12, 2006

Water Quality Standards: General Information

Administrative Codes

In Wisconsin, surface waters are classified for their potential to support a beneficial use to humans, fish and other aquatic life, as well as water-dependent wildlife. In making this decision, the Department must consider the various factors that influence water quality (e.g., pollution from sewage pipes, storm water runoff, agricultural practices, watershed development, etc...). When the Department attempts to determine what the beneficial use of a stream or river should be, it must consider if those factors are “reasonably controllable” or not. Ultimately, the recommendations of the Department are reviewed by the public and the legislature and final decisions are included in the Wisconsin Administrative Code – a series of legal documents that explain how the Department will implement Statutory Law. As described below, the official designated uses, water quality criteria to meet those uses, and the processes the Department uses to control pollution from point sources are defined Chapters NR 102 – 106, as well as NR 207, of the Wisconsin Administrative Code. A summary of each follows:

- Chapter NR 102 provides the use designation – or classification – of waterbodies in the state as well as water quality criteria for certain water quality indicators like dissolved oxygen, bacteria, temperature, and pH. This chapter also identifies which waters of the state are designated as Outstanding or Exceptional Resource Waters.
- Chapter NR 103 contains water quality standards for wetlands.
- Chapter NR 104 identifies waterbodies with classifications that reflect a variance to a water quality standard as approved under Section 283.15, Stats. NR 104 also identifies select waters where naturally occurring conditions such as very low flow or limited habitat exist making the water unsuitable for supporting warm or coldwater fish communities.
- Chapter NR 105 contains water quality criteria for toxic substances.
- Chapter NR 106 provides the details on how the Department calculates water quality-based effluent limits (WQBELs) to meet standards.
- Chapter NR 207 provides details on how the Department determines the conditions that apply to a new or increased pollutant load from a point source discharge to a water identified as an Outstanding or Exceptional Resource Water. For purposes of implementing NR 207, point sources are any entity that receives a Wisconsin Pollution Discharge Elimination System permit to discharge pollutants to a water of the state.

Water Quality Classifications

NR 102 identifies water quality classifications for Wisconsin Surface Waters. Those classifications include the categories of “beneficial use” to be protected and include:

- **Wildlife Protection** – All surface waters shall be classified for the protection of water dependent wildlife and meet the wildlife criteria as specified in NR 105.
- **Public Health & Welfare** – All surface waters shall meet the human threshold and human cancer criteria specified in NR 105. The applicable criteria vary depending on whether the surface water is used for public drinking water supplies and the designated fish & aquatic life use subcategory. In addition, all surface waters that provide public drinking water supplies, or are classified as cold water or warm water sport fish communities must meet taste and odor criteria as specified in NR 102.
- **Recreation** – Surface waters in the fish and aquatic life use classifications may also be classified as recreational use waters. This classification assures standards protecting surface waters from bacteria or other pathogens associated with fecal contamination. A bacterial examination of the water determines the suitability of a recreational use classification. As a result of this classification, municipals dischargers to recreational use waters may be required to disinfect their effluent. Exposure to pathogens is generally associated with body contact through recreational activities such as bathing, swimming, water skiing, etc.
- **Fish & Other Aquatic Life** – All surface waters are to be managed for the protection of fish, shellfish, amphibians, insects, mussels, etc. that are fully dependent upon water. There are five subcategories of protection for fish and aquatic life:
 - *Cold Water communities*: Waters capable of supporting a community of cold water fish and other aquatic life or serving as a spawning area for cold water fish species and includes, but is not limited to, surface waters identified as trout waters in the 1980 Wisconsin Trout Streams book (WDNR Publication 6-3600 (80)).
 - *Warm Water Sport Fish communities*: Waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish, such as bass, walleye, northern pike, perch, bluegill, crappie, and musky.
 - *Limited Forage Fish communities*: Waters capable of supporting a limited community of forage fish and other aquatic life due to low flow, naturally poor water quality, or poor habitat. These fish species – though not game fish – are very important in the food chain and often serve as the primary food source for game fish.
 - *Limited Aquatic Life communities*: Waters capable of supporting only a limited community of aquatic life. These waters tend to have severely limited capacity to support fish species due to very low or intermittent flow and naturally poor water quality or habitat.

Note: Surface waters classified in the limited forage fishery or limited aquatic life subcategories are not capable of achieving Clean Water Act goals. These waters are listed in Wisconsin Administrative Code NR 104.05 to 104.10.

Outstanding and Exceptional Resource Waters

Wisconsin has designated many of the state's highest quality waters as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). An ORW or ERW designation does not include water quality criteria like a use designation. Instead, it is a label that identifies waters the State of Wisconsin has identified that warrant additional protection from the effects of pollution. These designations are intended meet federal Clean Water Act obligations requiring Wisconsin to adopt an "antidegradation" policy that is designed to prevent any lowering of water quality – especially in those waters having significant ecological or cultural value.

Current waters designated as ORW's and ERW's are found in s. NR 102.10 and s. NR 102.11, respectively. The list was originally created in the late 1980's and was based upon a small set of state & federal Wild & Scenic Rivers as well as many trout streams. The list has been revised a few times since with the largest change occurring in the early 1990's after the Department conducted a statewide evaluation to determine which waters qualified for ORW and ERW designation. As a result, additional waters were added in 1993 and 1996 after rigorous screening and public input processes. In 2002, the Public Service Commission donated Caldron Falls as a protected waterbody under the ORW/ERW program. Below is a summary of the number of waters that are currently designated in NR 102 as Outstanding and Exceptional Resource waters:

Table 1: ORW / ERW Waterbodies

	ORW (# of waters)	ERW (# of waters)
Streams	220	1532
Lakes	97	
Flowages	6	

Based on the current list, a total of 2,075 stream miles, or 6.5% of the 32,010 perennial river miles in the state have been designated as ORW. A total of 3,661 stream miles, or 12% of the river miles in the state have been designated as ERW. Of Wisconsin's 27,723 waterbodies, 1,855 (6.7%) are now designated in NR 102 as either Outstanding or Exceptional Resource Waters.

Frequently Asked Questions

General Questions

What are Outstanding and Exceptional Resource Waters (ORW & ERW)?

Waters designated as ORW or ERW are surface waters which provide outstanding recreational opportunities, support valuable fisheries, have unique hydrologic or geologic features, have unique environmental settings, and are not significantly impacted by human activities.

What is the difference between ORW and ERW?

ORW's and ERW's share many of the same environmental and ecological characteristics. The primary difference between the two is that ORW's typically do not have any direct point sources (e.g., industrial or municipal sewage treatment plant, etc.) discharging pollutants directly to the water. In addition, any pollutant load discharged to an ORW must meet background water quality at all times. Exceptions are made for certain types of discharge situations to ERW's to allow pollutant loads that are greater than background water quality when human health would otherwise be compromised.

How is a decision made to designate waters as ORW or ERW?

Streams that are designated as ORW's or ERW's are typically identified by water quality biologists as having one or more of the characteristics named in NR 102. By assessing the qualities of the stream, or by evaluating existing data, biologists recommended specific waters for ORW/ERW designation. These recommendations are eventually brought before the Natural Resources Board and the Wisconsin Legislature for potential inclusion in NR 102.10 and NR 102.11.

How many waters in Wisconsin currently have ORW or ERW designations?

At this time, there are 323 waters (stream, lakes, flowages) designated as ORW, and 1,532 streams designated as ERW. Of the total 32,010 river miles in the state, approximately 6.5% are designated as ORW, and 11.4% are designated as ERW.

How does an ORW or ERW designation affect point source discharges?

Any permittee proposing a new discharge to an ORW or ERW will be required to discharge wastewater that is equal to or better than the background water quality of the stream upstream or adjacent to the discharge site. Some flexibility is given to discharges to ERW's if a new surface water discharge is needed to prevent or correct public health or water contamination problem.

Permittees with an existing discharge to an ERW would have to make a demonstration of need according to s. NR 207.04 for any increase in load of pollutants discharged. Existing discharges to ORW's – though rare – would not be allowed to increase the discharge of pollutants unless the added load was equal to or better than background water quality of the receiving stream upstream or adjacent to the discharge site.

How does this designation affect Chapter 30 permits?

Under the provisions of Act 118, waters designated as ORW or ERW are considered *Areas of Special Natural Resources Interest*. As a result, exemptions from Chapter 30 permits would not be available to cover select modifications to public navigable waters. Applicants would instead need to acquire a general or individual permit from the Department before beginning a covered project. Information on costs and site data needed to apply for a Chapter 30 permit can be found at the Department's website at:

<http://dnr.wi.gov/org/water/fhp/waterway/permitprocess.shtml>

How does this designation affect proposals for new high capacity wells?

As defined in Act 310, "groundwater protection areas" are in part, locations within 1,200 feet of an ORW or ERW. As a result, increased environmental review would be required before approval would be given for construction of a new high capacity well. Information on requirements for groundwater wells can be found on the Department's website at:

<http://dnr.wi.gov/org/water/dwg/wells.htm>

Why is the Department proposing to change the list now?

The Department is responding to an external petition that was presented to the Natural Resources Board in August 2004. This petition requested that 100 waters in northern Wisconsin be considered for ORW or ERW designation. The

department considered available data and recommended that those waters with data supporting either an ORW or ERW designation be designated as such.

Where can I find a list of waters designated as ORW or ERW?

Waters designated as ORW or ERW are listed in NR 102.10 Wis. Adm. Code and NR 102.11, Wis. Adm. Code, respectively. An alphabetical listing, as well as a listing by county, can be found on the Department's website at:

<http://dnr.wi.gov/org/water/wm/wqs/orwerw/>

Implementation Questions

Can a new industry discharge its wastewater to an existing municipal plant that is discharging to an ERW water – even if this results in an increased discharge from the municipal plant?

This is possible if the increased discharge from the municipal plant is justified under the conditions of s. NR 207.04(1)(c)1.e.

How will the Department calculate effluent limitations for a permitted discharge to a Warm Water Sport Fish receiving stream if there is an ORW or ERW designated segment downstream?

The federal Clean Water Act and state law require the Department to protect for the most applicable downstream use when calculating effluent limitations. However, each case is unique and requires the Department to make a decision about the fate of the pollutants being discharged. Some pollutants do not degrade in water rapidly (i.e., toxic metals, organochlorine pesticides, phosphorus, etc...) and may travel downstream much further than substances like ammonia that do degrade quickly. If Department staff has information to suggest that the pollutants being discharge may reach a downstream segment, effluent limits would need to be set in a manner that would not result in background water quality being impacted at that downstream location.

What is meant by “background” water quality?

This refers to the physico-chemical conditions of a receiving stream near or above the point of discharge from a permitted facility. When several discharges are located in a concentrated stretch of a receiving water, the background water quality will be determined to be upstream and outside of the direct influence of all of the discharges. With few exceptions, the Department limits the comparison of background water quality and effluent quality to those pollutants that are commonly tested for in the permitting process. This includes pollutants like pH, temperature, biochemical oxygen demand, ammonia, chlorine, suspended solids, toxic metals, pesticides, volatile organic compounds, polycyclic aromatic halogenated compounds and any other substances that may be added to the water being treated by the permitted facility.

Will effluent limitations be more stringent if a point source discharge currently has a WPDES permit that includes limits for the protection of a *warm water sport fish community* (WWSF) and a new ERW designation is proposed for a downstream segment,?

Point sources would maintain their existing limits and would still have to go through the antidegradation process (NR. 207.04) if they requested an increased discharge. Future limits would not be more restrictive, because they would stay the same in order to maintain protection of the warm water sport fish community.

Are General Permits available for point source discharges to ORW & ERW waters?

The applicability criteria for a General Permit provide specific guidance to answer this question. In summary, General Permits are not available for the following types of discharges to ORW waters:

- Carriage and/or Interstitial Water from Dredging Operations
- Concrete Products Operations
- Contaminated Groundwater from Remedial Action Operations*
- Hydrostatic Test Water or Water Supply System Water
- Noncontact Cooling Water or Condensate & Boiler Water
- Nonmetallic Mining Operations
- Petroleum Contaminated Water
- Pit/Trench Dewatering
- Potable Water Treatment & Conditioning
- Short Duration Discharge
- Sodium Cycle Ion Exchange Water Treatment Units
- Wastewater from the Outside Washing of Vehicles, Equipment and Other Objects

* - General Permit prohibition applies to discharges to ORW waters only.

What will happen to the water quality-based effluent limits (WQBEL) for Bioaccumulative Chemicals of Concern (BCC's) and metals at facilities where the stream designation changes to ERW?

The effluent limits will remain the same unless a change in the operation occurs. If a change occurs and the facility requests increased limitations, a demonstration of need must be satisfied according to the provisions of NR 207.04. Note: If a facility discharging anywhere within the Lake Superior or Lake Michigan drainage basin requests an increase in limits for BCC's, the resulting limitation for the increased load may not exceed the most stringent water quality criteria contained in Chapter NR 105.

Will it be harder to justify an increased discharge if the surface water is designated as ERW vs. WWSF (warm water sport fish)?

No. An **increased** discharge to an ERW would be treated the same as if it were Warm Water Sport Fish community. A **new** discharge, on the other hand, would be harder to justify, because they would have to demonstrate that the discharge is needed to correct an existing surface water or ground water contamination problem.

**EXISTING DISCHARGE TO STREAM PROPOSED
FOR DESIGNATION AS:**

OUTSTANDING RESOURCE WATER

- Maintain original water quality based effluent limits (WQBELs) based on original flow
- WQBELs for increased portion of discharge based on background water quality, proportional to increased flow [s. NR 207.03(3)]
- Not eligible for a general permit

EXCEPTIONAL RESOURCE WATER

- WQBELs for increased discharge are based on fish and aquatic life waters procedures [s. NR 207.03(4)(c)]
- Not eligible for a general permit unless preventing or correcting a public health or existing groundwater contamination problem.

**NEW DISCHARGE TO STREAM PROPOSED
FOR DESIGNATION AS:**

OUTSTANDING RESOURCE WATER

- WQBELs must be set equal to background water quality [s. NR 207.03(3)]
- Not eligible for a general permit

EXCEPTIONAL RESOURCE WATER

- WQBELs must be set equal to background water quality [s. NR 207.03(4)(b)], **UNLESS**
 - 1) new discharge is needed to prevent or correct existing surface water / groundwater contamination situation **OR**
 - 2) new discharge is needed to prevent or correct public health problem
- If either of the two above conditions are met, WQBELs are determined based on fish and aquatic life waters procedures [s. NR 207.03(4)(a)]
- Not eligible for a general permit unless preventing or correcting a public health or existing groundwater contamination problem.

Notes:

- An increased discharge as defined in s. NR 207.02 “means any change in concentration, level or loading of a substance which would exceed an effluent limitation specified in a current WPDES permit.” It does not include the initial imposition of effluent limitations for substances which were in a previous discharge but which had not been limited in a prior or the current permit.
- Fish and aquatic life waters procedures are defined in s. NR 207.04. These procedures would be used to evaluate limitations for any new or increased discharges to all waters not currently listed in chs. NR 102 or NR 104.

Petition Background

- Department received external petition in August 2004. Petition requested listing 100 waters in Northern Region (NOR) as ORW or ERW. Department convened a workgroup to address petition & make recommendation.
- Department recommended listing of 40 segments as ORW or ERW. Sixty of the waterbody segments in the petition were NOT recommended for ORW/ERW listing.
- Generally, recommendations to list or not list were as follows:

RECOMMEND FOR LISTING	DO NOT RECOMMEND FOR LISTING
<p>Waterbody had recent data (1989 to present) available showing that biological characteristics (fish, macroinvertebrates) indicated high quality biological community</p> <p style="text-align: center;">OR</p> <p>Natural Heritage Inventory (NHI) database indicated presence of aquatic threatened or endangered species</p>	<ul style="list-style-type: none"> • No data available since 1989, OR • Biological data not indicative of high quality biological community, OR • NO aquatic threatened/endangered species, OR • Existing water quality problems, OR • Segment within tribal boundary

- History of O/ERW listings

1988: Initial List.

- Several state and federal Wild and Scenic Rivers
- Numerous Class 1 trout streams

1989: Listing of additional 24 waters (mostly trout streams)

1993: Warmwaters

- 99 lakes and 77 streams (or stream segments) listed as ORW
- 125 streams (or stream segments) listed as ERW

1998: 4 flowages added as ORW

2005: Proposal to add 40 additional segments as ORW or ERW.

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